
Marion Road Trunk Sanitary Sewer Project
Rochester, MN

# Alternative Urban Areawide Review and Mitigation Plan
# **Final Update #1**

*April 2009; modified September 2009*

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(including comment and objection correspondence, responses to comments, and findings of fact)

## PART I - MARION ROAD TRUNK SANITARY SEWER PROJECT ALTERNATIVE URBAN AREAWIDE REVIEW UPDATE #1

The City of Rochester completed an Alternative Urban Areawide Review (AUAR) in 2002 in conjunction with the extension of sanitary sewer into Marion Township. The 2002 AUAR consisted of two documents: the *Draft Alternative Urban Areawide Review and Mitigation Plan for the Marion Road Trunk Sanitary Sewer Project* (April 2002) and the *Final Alternative Urban Areawide Review and Mitigation Plan for the Marion Road Trunk Sanitary Sewer Project* (May 2002; adopted on 6/17/02 by the Common Council of the City of Rochester, acting as the designated Responsible Governmental Unit); henceforth the 2002 AUAR. This AUAR Update #1 incorporates those documents by reference. The same format and principles that were used to prepare the 2002 AUAR will be applied to the Update #1. Therefore, this Part utilizes the Environmental Assessment Worksheet (EAW) format as modified by Environmental Quality Board (EQB) AUAR Guidance (as of April 2005). Responses to the questions are only provided when there has been a change since the 2002 AUAR. Wherever "no changes" is indicated, refer to the original documents as listed above to review the original response.

### 1.0 PROJECT TITLE

Marion Road Trunk Sanitary Sewer Project; Rochester, MN; Alternative Urban Areawide Review and Mitigation Plan Update #1; henceforth AUAR Update #1.

### 2.0 PROPOSER - CITY OF ROCHESTER

City of Rochester (no change)

### 3.0 RESPONSIBLE GOVERNMENTAL UNIT

City of Rochester (no change)


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### 4.0 REASON FOR AUAR UPDATE PREPARATION

This document has been prepared to fulfill the requirements of Minnesota Rules, 4410.3610, Subp. 7, which require AUAR updates under certain circumstances. Since the completion of the initial 2002 AUAR:

- Full build out of the project area is not complete,

- There have been no comprehensive plan amendments that would allow an increase in development over the levels assumed in the environmental analysis document,
- Total development within the area has not exceeded the maximum levels assumed in the environmental analysis document,
- Development within any subarea delineated in the environmental analysis document has not exceeded the maximum levels assumed for that subarea in the document,
- A substantial change in public facilities intended to service development in the area has not been proposed or implemented that would result in increased adverse impacts on the environment,
- Development or construction of public facilities has not occurred on a schedule other than that assumed in the initial AUAR and plan for mitigation so as to substantially increase the likelihood or magnitude of potential adverse environmental impacts or to substantially postpone the implementation of identified mitigation measures,
- No new information has been received that demonstrates that important assumptions or background conditions used in the analysis presented in the environmental analysis document are substantially in error and that environmental impacts have consequently been substantially underestimated, and
- No other substantial changes have occurred, as determined by the City of Rochester, that may affect the potential for, or magnitude of, adverse environmental impacts.

Accordingly, the City of Rochester is required to update the 2002 AUAR five years after it was adopted by the City. In addition to meeting the requirements of Mn Rules 4410.3610, this AUAR Update #1 will serve as a valid substitute form of MN environmental review for the proposed extension of 20th St. SE between Marion Rd. and 11th Ave. SE. As the designated Responsible Governmental Unit, the Common Council of the City of Rochester passed a resolution on June 5, 2006 approving the substitution of this AUAR Update #1 for an EAW for the 20th St. SE extension project (see Appendix A).

Minnesota Rules Ch. 4410.3610, subp. 7 further requires that the environmental analysis document and plan for mitigation must be revised by preparing, distributing, and reviewing revised documents in accordance with subpart 5, items D to H, except that the documents must be distributed to all persons on the EAW distribution list under part 4410.1500. Since a Technical Advisory Committee was created to assist in the preparation of the 2002 AUAR, current representatives of those organizations will also receive copies of the AUAR Update #1.

## 5.0 PROJECT LOCATION

**County:** Olmsted County **City/Township:** Marion Township
**Sections:** S½ 4, S½ 7,8,9, N½ 18, 17,16, NE¼ 19, N½ 20, 21, 22, 28, W½ 23
**Township:** 106N **Range:** 13W
See Figure 1 – AUAR Project Area

## 6.0 DEVELOPMENT SCENARIO DESCRIPTION - Provide a project summary of 50 words or less to be published in the *EQB Monitor.*

The City of Rochester has prepared the AUAR Update #1 to its 2002 Marion Road Trunk Sanitary Sewer Alternative Urban Areawide Review and Mitigation Plan.

Development Scenario:

No change. One hypothetical development scenario was adopted by the City Council on January 23, 2002. The scenario does not preclude or supersede the City and County official plans, ordinances, and development process, or change opportunities for interested citizens to participate in the development process. Table 1-1 provides an updated comparison of 2001, 2006, and ultimate development based on the hypothetical development scenario. It is important to remember that the hypothetical development scenario reflects the highest reasonable and feasible density that could be expected to occur in the project area given the designated land use patterns and the logical zoning districts that would apply to the area upon its annexation into the City of Rochester. The Hypothetical Development Scenario is illustrated in Figure 3.

**TABLE 1-1**
**2001, 2006, AND ULTIMATE LAND USE**
**BASED ON THE HYPOTHETICAL DEVELOPMENT SCENARIO**

| Land Use Category | 2001 Land Use (Developed areas in acres) | Revised Land Use (acres) with Land Use and Zoning Changes | Changes from 2002 to 2006 (Developed areas in acres) | 2006 Total Land Use (1) (Developed areas in acres) | Hypothetical Development Scenario Land Use (full build out in acres) |
|---|---|---|---|---|---|
| Low Density Residential | 893 | 876 | +215 | 1,091 | 3,154* |
| Commercial & Industrial | 39 | 56 | +18 | 74 | 110 |
| Park and Open Space | 33 | 33 | +210 | 243 | TBD** |
| Vacant/Agricultural/Undeveloped Area | 2,440 | 2,440 | -760 | 1,680 | 0 |
| Suburban Development Area | 0 | 0 | +311 | 311 | 108 |
| Transportation (road rights-of-way) | 377 | 377 | 0 | 377 | TBD** |
| Environmental Features (floodways, water bodies, steep slopes, high constraint features) | 534 | 534 | +6 | 540*** | 534 |
| Total Acres | 4,316 | 4,316 | N/A | 4,316 | 4,316 |

(1) All land use evaluations were based on conditions existing as of December 31, 2006.

* This figure was calculated to include lands that would be dedicated for park needs and road right-of-way, as well as areas that may be used as small commercial nodes.

** To be determined based on specific future development proposals.

*** The additional 6 acres is attributed to the addition of nine new storm water ponds.

Since 2002, there has not been a change in the hypothetical development scenario applied to the entire project area, even though there have been minor adjustments to the anticipated acres zoned for residential, commercial, and industrial development (see Table I-1 and Section 9.0). Nor have there been changes to the sanitary sewer or water main plans or the staging plans for infrastructure installation.

## 7.0 PROJECT MAGNITUDE DATA

The following table compares the development status in the Project Area in 2001 and at the end of 2006, along with the projected ultimate development totals projected in the initial AUAR.

**TABLE I-2**
**PROJECT MAGNITUDE DATA**
**(Total Project Acreage = 4,315 Acres)**

| | Projected Ultimate Development Between 2002 – Full Build Out* | New Development 2002-2006 | Remaining Development Potential |
|---|---|---|---|
| **Number of Residential Units** | 6,480 new dwelling units | 163 du's | 6,317 du's |
| **Single-Family Detached** | 3,160 new dwelling units | 128 du's | 3,032 du's |
| **Multi-Family Attached** | 3,320 new dwelling units | 35 du's | 3,285 du's |
| **Non-Residential Square Footage (1)** | 711,260 new sq. ft. | 23,072 sq. ft. | 688,188 sq. ft. |

* New dwelling units anticipated between Spring 2002 and ultimate development

du's = dwelling units

(1) Assumes two neighborhood commercial nodes at 8 to 10 acres in size each. The exact location of these nodes is dependent upon specific development plans.

## 8.0 PERMITS AND APPROVALS REQUIRED

**List all known local, state and federal permits, approvals and financial assistance for the project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure.**

The listings for known permits and approvals presented in Table 2-8 of the 2002 AUAR are still applicable.

Since 2002, Chapter 59 (Wetland Conservation) of the Rochester Code of Ordinances has been modified to increase protection of wetlands located within the geologic setting known as the Decorah Edge, which provides approximately 50% of the City's groundwater recharge. In addition to incorporating the Minnesota Wetland Conservation Act and Minnesota Rules Chapter 8420 by reference, this local ordinance now requires that, except as provided in sections 59.07, 59.08 or subdivisions 2, 3 or 4 of section 59.06, groundwater supported wetlands and Edge Support Areas may not be excavated, altered hydrologically, drained or filled wholly or partially. Development activities must be carried out in such a way as to maintain groundwater flow to or from a wetland, and to protect the quality, functions and values of the wetland as determined by the MnRAM method. For more details on the requirements of this ordinance, consult:
http://www.rochestermn.gov/departments/attorney/ordinances/Ch59WetlandConservation.asp.

Additionally, the Rochester Public Works Department issues other minor permits that were inadvertently omitted in the 2002 documents. Permits are, and have been, required for the construction of sidewalks and driveways and the installation of utilities.

The listings for financial assistance presented in Table 2-9 of the 2002 AUAR are still applicable. Since 2002, the City adopted a new Storm Water Utility Fee to fund the implementation of the City's storm water management program and its Municipal Separate Storm Sewer System permit activities. This fee applies to every developed parcel within the City and is based on the amount of impervious surface present on the parcel. For more details on the ordinance requirements consult: http://www.rochestermn.gov/departments/attorney/ordinances/Ch77AStormwaterUtility.asp

## 9.0 LAND USE

**Describe current and recent past land use and development on the site and on adjacent lands. Discuss project compatibility with adjacent and nearby land uses. Indicate whether any potential conflicts involve environmental matters. Identify any potential environmental hazards due to past site uses, such as soil contamination or abandoned storage tanks, or proximity to nearby hazardous liquid or gas pipelines.**

New development within the AUAR Project Area since 2002 has been consistent with the Land Use Plan and Zoning Map, and amendments thereto. Beginning with non-residential construction, the first four entries on Table 1-4 below were new structures, while the fifth entry was a building expansion.

**TABLE I-3**
**NON-RESIDENTIAL CONSTRUCTION SINCE 2002**

| Site | Address | Use | New Square Footage |
|---|---|---|---|
| Buddhist Temple | 4462 29th St. SE | Worship | 10,603 |
| RPU Well House | 2910 20th St. SE | Utility (City Well #39) | 872 |
| Bob's Construction | 4006 Hwy 14 E | Industrial storage warehouse | 3,588 |
| L.B. Electric | 4210 Hwy 14 E | Industrial contractor warehouse | 5,789 |
| Baier's Engine Service | 2915 20th St. SE | Industrial vehicle service & repair | 2,220 |

Between 2002 and 2006, 128 new single-family residential dwelling units were constructed within the project area. One of the single family residences is a group home for the developmentally disabled. The Rolling Ridge subdivision constructed seven multi-family dwellings, each with 5 residential units.

One new development, Rochester Towne Club, involved trading one half of the existing golf course property that is outside the AUAR Project Area for future residential and commercial development in exchange for adjacent replacement golf course property within the AUAR Project Area. The construction of the replacement golf course (9 holes) within the AUAR Project Area has been completed. Outside the AUAR Project Area, but adjacent to it, the Towne Club Parkway has been constructed as the new local access road to the golf course and the future development areas.

Within the AUAR Project Area, a major amendment to the Olmsted County General Land Use Plan was made in April 2002. This area converted 473 acres in Sections 22 and 27 of Marion Township from Resource Projection and Urban Reserve Area to Suburban Development Area (see Figure 2 - Olmsted County General Land Use Plan). The land use category did not change as a result of this amendment The amendment was necessary to accommodate the development of the Colonial Oaks Third and Cambridge

Hills residential subdivisions as Suburban Development, recognizing that this area was considered unlikely to receive City water and sanitary sewer services due to the very low density residential development that would render sewer and water assessments cost-prohibitive. This change was amenable to the City of Rochester since single-family residential development at Suburban Development densities was consistent with the Hypothetical Development Scenario. Additionally, the other land east of 50th Avenue within that sub-watershed was already designated as Suburban Development (rural residential) by Olmsted County.

Two minor zoning changes were made within the AUAR area near the intersection of Marion Rd SE and 29th St. SE. The first change was made in 2006 converting 7 acres from low density residential to an industrial designation. The second change was made in 2008 converting 9.69 acres from low density residential to a light industrial designation.

None of these three changes will cause an overall change in the hypothetical development scenario for the total project area.

## 10.0 COVER TYPES

**Estimate the acreage of the site with each of the following cover types before and after development.**

Land cover mapping has not been updated since 2002 so no new map is provided. Land cover changes that have happened as a result of new development since 2002 are shown in Table 1-5 below. These changes are consistent with the expected development under the Hypothetical Development Scenario.

**TABLE I-4**
**CHANGES IN COVER TYPE**

| Cover Type | Change |
|---|---|
| Wetlands (by Type) | Type 2 wetlands decreased by 0.16 acres (Colonial Oaks III) |
| Watercourses | None |
| Lakes | None |
| Woodlands (by class) | Decreased by 78.70 acres |
| Grassland | Decreased by 216.51 acres |
| Cropland | Decreased by 212.34 acres |
| Impervious Area | Increased by 33.50 acres |

## 11.0 FISH, WILDLIFE AND ECOLOGICALLY SENSITIVE RESOURCES

**a. Identify fish and wildlife resources and habitats on or near the site and describe how they would be affected by the project. Describe any measures to be taken to minimize or avoid impacts.**

Fish and wildlife resources and habitat have not changed in areas that remain undeveloped. Development proposals resulted in the submittal of seven wetland applications within the AUAR Project Area. However, only one development (Rochester Towne Club) had a Type 2 wetland impact, totaling 0.35 acres that was mitigated at the required 2:1 ratio by a replacement of 0.7 acres from the Schmidt wetland bank in Haverhill Township. The mitigation took place within the Silver Creek Sub-Watershed and the

impact took place in the adjacent Mayo Run Sub-Watershed; both are within the South Fork of the Zumbro River Watershed.

Wetland delineation activities have been completed as part of the environmental review process for the construction of the proposed 20th St. SE extension between Marion Rd. and 11th Ave. SE, resulting in the identification of 0.35 acres of Type 1 wetlands that will be impacted by the road project, which is slated for a 2009 construction start. Wetland impacts are being mitigated in accordance with local and state requirements. A wetland replacement plan was recently approved that provides for mitigation of the wetlands that will be impacted by the 20th St. SE extension project through the use of new wetland credits, wetland enhancement credits, and wetland buffer credits that were created in 2007 as part of the Silver Lake Buffer project. This mitigation is within the South Fork of the Zumbro River Watershed for impacts within its Bear Creek Sub-Watershed.

Two wetlands within the AUAR Project Area were designated as calcareous fens by the Department of Natural Resources (DNR) in 2004: the Joyce Park Fen and the Marion 8 Fen. Minnesota Rules 7050.0180 identifies calcareous fens as "outstanding resource value waters" affording them special protection. Developments with the potential to impact calcareous fens are required to consult with DNR to develop measures for preventing adverse impacts to the fens, including storm water management methods. Depending on the potential and severity of the impacts, project sponsors may be required to develop and submit a Fen Management Plan to the DNR and receive approval before construction can begin. At this time, there are no new and expanded discharges to these fens, therefore, Fen Management Plans are not yet required. Additionally, under the City's municipal storm water permit, calcareous fens are classified as "waters with restricted discharges", necessitating a Nondegradation Review (see Section 17 for details) and protection from new and expanded discharges. Where required by DNR, implementation of Fen Management Plans provides for the storm water management methods necessary to protect these special wetlands.

As anticipated, development since 2002 has also resulted in the loss of 78.7 acres of woodland and 216.51 acres of grassland habitats and their associated wildlife resources.

**b. Are any state-listed (endangered, threatened or special concern) species, rare plant communities or other sensitive ecological resources such as native prairie habitat, colonial waterbird nesting colonies or regionally rare plant communities on or near the site?**
**_x_ Yes __ No**

**If yes, describe the resource and how it would be affected by the project. Indicate if a site survey of the resources has been conducted and describe the results. If the MnDNR Natural Heritage and Nongame Research program has been contacted give the correspondence reference number** No Change. **Describe measures to minimize or avoid adverse impacts.**

One development, Colonial Oaks Third, had the potential to impact the Blanding's turtle *(Emydoidea blandingii)*. Accordingly, as a condition of their plat, the arch pipe under Gavin Lane and other new culverts under roadways were required to be flat-bottomed culverts to facilitate Blanding's turtle migration. The openings associated with the re-construction of the Marion Rd. bridge over Willow Creek., the 20th St. bridge over Bear Creek and the 30th St. bridge over Badger Run were sufficient to provide for turtle migration, as will be the planned crossings of Willow Creek and Bear Creek needed for the proposed extension of 20th St. SE.

Two records of Blue racer snakes were shown in the project area. The Blue racer snake (*Coluber constrictor*) was noted as being a state-listed species of special concern, which are not protected under

current regulations. The Blue racer can occupy a variety of habitats in the deciduous forest regions of Minnesota, including forested hillsides, bluff prairies, grasslands, and open woods. Woodland margins and field edges are the preferred summer habitats (Coffin and Pfannmuller.1988). Blue racer snakes live in a variety of open dry habitats, such as: brushy areas along the edges of deciduous woodlands, grass prairies, bluff prairies, and old fields. Because these snakes primarily hunt by sight, they avoid areas of dense vegetation. Blue racers overwinter in mammal burrows, rock crevices, gravel banks, stone walls, and abandoned wells. They may share these winter homes with other racers, Timber rattlesnakes, Rat snakes, Gopher snakes, and common Garter snakes. The destruction and loss of habitat are the greatest threat to amphibian and reptile populations and is especially critical to rare species. Pesticide accumulation, hunting, and over-collecting also pose a threat. As noted above, development since 2002 has resulted in the loss of 78.7 acres of woodland and 216.51 acres of grassland habitats; which are the habitat types used by Blue racer snakes.

Storm water management requirements associated with new development provide water quality protection that is protective of black redhorse habitat. This is a special concern fish species found during past fish surveys from the lower reach of Bear Creek; as such it is not protected under current regulations.

In 2004, DNR received information about the presence of a Wood Turtle (Clemmys insculpta), a state-listed threatened species, near Badger Run. Subsequent radio telemetry work identified additional Wood Turtles, including gravid females and reproductive age males, along Badger Run and in a short section of Bear Creek near its confluence with Badger Run. There are also unconfirmed reports of Wood Turtles in nearby Willow Creek. All the turtle locations documented through DNR's telemetry work lie south of the proposed 20th Street SE extension corridor. According to the DNR, the area of confluence of these three streams is an extremely important wood turtle habitat complex since they require streams, wooded riparian foraging areas, and sandy cutbanks, sand bars, or nearby upland areas for nesting. DNR has published information about the Wood Turtle and conservation/management approaches in its Rare Species Guide. This information has been disseminated to Planning, Park and Recreation, and Public Works Department staff involved in planning and development review processes.

As it relates to the extension of 20th Street SE, the wooded areas within the Bear Creek and Willow Creek floodplains will be left intact, except for the 190-foot street construction corridor, leaving a significant riparian buffer that varies in width from approximately 240 to 450 feet wide. Stream/woodland corridor connectivity will be retained by virtue of the long, single-span bridges across Willow and Bear Creeks that are needed to minimize floodplain impacts. The wooded portion of Kepp Park is not planned for recreational development, leaving from 300 to 450 feet of wooded buffer within the floodplain between the creeks and the active area of the park. The wooded floodplain area is the steepest area of the property, with elevation changes of 6 to 8 feet from the stream to the upland areas.

Wood Turtle conservation can be promoted by creating additional, suitable nesting habitat. An ideal site would be near the stream confluences, generally flat, not subject to flooding, open to sunlight to facilitate incubation, and sandy. It would be possible to create a potential nesting area within Kepp Park by clearing 3.25 acres of scrubland outside of the floodplain and adjacent to the wooded riparian buffer, which is the habitat type needed for foraging and staging prior to nesting. The City has identified a suitable site that meets these criteria in the northwest corner of the Kepp parcel, in the wooded area immediately east of the former melon field. This site is underlain by the Plainfield loamy sand, 0-6% slope (283B) and maintains a wooded buffer between it and a future bike path. To create an open nesting area, the City will need to remove undesirable tree and shrub species. Desirable tree and shrub species will be retained where possible without compromising the need to open the canopy to sunlight. The table below lists the desirable and undesirable species currently present in this area, as identified by the City Forester.

| Desirable Species (Retain, Where Possible) | Undesirable Species (Remove) |
|---|---|
| Apple | Ash (small) |
| Ash (only mature green ash) | Box Elder |
| Cherry | Buckthorn |
| Cottonwoods | Elm |
| Dogwood | Honeysuckle |
| Hawthorne | Mulberry |
| Oak (only white oak family members) | Oak (all red oak family members, due to oak wilt) |
| Silver Maple | Prickly Ash |
| Walnut | |
| Willow | |

The DNR will be assisting the City by providing technical guidance in the development of a vegetation removal and restoration plan for the site and on-site guidance to contractors during tree and brush removal activities related to designating access routes, limiting heavy equipment travel within the clearing area to minimize soil compaction, remaining outside the drip line of retained trees, seeding the cleared area to a short-grass or other appropriate prairie mix, and any other suitable instructions to develop the desired habitat. The DNR will also treat sprouting invasive species such as buckthorn and honey suckle within the year following tree clearing. The City will develop a long term vegetative maintenance plan to insure that the cleared area is retained as an open clearing.

As part of the 20th Street SE Connection Project, the City will install a four-foot high chain-link fence on the south side of the roadway, one foot north of the right-of-way line. Along its entire length, 18-inch tall opaque slats will be inserted into the chain-link mesh at ground level to reduce "see-though" visibility by the turtles, so as to discourage turtle transit onto the roadway from Bear Creek. This fence will begin across from the park entrance road at the east end of Kepp Park (Station 140+00) and extend west for approximately 1,000 feet (to Station 130+00), across from the bike trail connection. This placement was chosen because it coincides with the open area of Kepp Park that might induce turtle movement into this area.

Also, as part of the 20th Street SE Connection Project, the City will be purchasing property for road and drainage easements and Section 6(f) parkland mitigation from a 14.8-acre parcel of land (the Ratzloff parcel) that contains the confluence of Badger Run and Bear Creek at its easternmost property boundary. If the property owner is willing to negotiate a reasonable purchase price, the City will consider purchasing the entire parcel. If this is accomplished, then the portions of the parcel not needed for roadway easements and parkland mitigation will be retained as public open space, precluding the potential for urban development in this area and providing additional foraging habitat and habitat connectivity between Kepp Park, Bear Creek Park and a 15-acre, and a non-park, City-owned, open space parcel.

## 12.0 PHYSICAL IMPACTS ON WATER RESOURCES

**Will the project involve the physical or hydrologic alteration - dredging, filling, stream diversion, outfall structure, diking, and impoundment - of any surface waters such as a lake, pond, wetland, stream or drainage ditch? _x_ Yes __ No**

**If yes, identify water resource affected and give the MnDNR Protected Waters Inventory number(s) if the water resources affected are on the PWI. Describe alternatives considered and proposed mitigation measures to minimize impacts.**

The only floodplain impact since 2002 resulted from the planned development of a residential subdivision known as Wildwood Meadows. To offset the expected floodplain filling, the development design requires mitigation for fill placed in the flood fringe at a 1:1 ratio. A Conditional Letter of Map Revision (CLOMR) was completed in 2007 and submitted to obtain federal approval for the anticipated floodplain changes. A Letter of Map Revision (LOMR) will be completed in the future when the grading work is finished and grades are certified.

In 2006, Olmsted County entered into an agreement with the Minnesota Department of Natural Resources known as a Cooperative Technical Partners (CTP) program. Barr Engineering was hired to develop detailed studies of six streams in Olmsted County including Badger Run. The DNR has approved the hydrologic and hydraulic modeling and resulting floodplain designation for Badger Run.

In association with the proposed extension of 20th St. SE, the City of Rochester completed preliminary hydrologic and hydraulic analyses to select a preferred road and bridge alignment that is consistent with the floodplain regulations and that would have the least amount of impact. As part of the design process, hydrologic and hydraulic analyses were conducted to identify an alignment with the least floodplain impacts and the mitigation measures needed to offset them. The process resulted in an update to the floodplain map for the project area and a Conditional Letter of Map Revision (CLOMR) report. This report was presented at a public informational meeting on February 13, 2008 and at the Rochester Planning and Zoning Commission meeting on March 26, 2008. On May 22, 2008, the City Council adopted a resolution indicateing support of the Conditional Letter of Mpa Revision (CLOMR) submitted to the Federal Emergency Management Agency (FEMA). FEMA approved the CLOMR and notified the City on December 18, 2008. A Letter of Map Revision (LOMR) will also be required and processed after completion of the project.

## 13.0 WATER USE

**Will the project involve installation or abandonment of any water wells, connection to or changes in any public water supply or appropriation of any ground or surface water (including dewatering)?**
**_x_ Yes __No**

**If yes, as applicable, give location and purpose of any new wells; public supply affected, changes to be made, and water quantities to be used; the source, duration, quantity and purpose of any appropriations; and unique well numbers and MnDNR appropriation permit numbers, if known. Identify any existing and new wells on the site map. If there are no wells known on site, explain methodology used to determine.**

In 2002, the County Well Index (CWI) indicated there were approximately 450 wells located within the project area. A review of the 2007 CWI indicates that there are 441 active wells located within the project area. Since 2002, seven new private wells have been installed and 16 have been abandoned.

Prior to 2002, public water supply wells 33 and 72 were the only ones located in the AUAR Project Area. In 2006, Rochester Public Utilities (RPU) drilled one new public water supply well in this area; Well No. 39 located on Marion Road SE, just south of 20th St. SE. RPU has delineated the one year and the fifty-year time of travel zones (see Figure 4) for this well, but has not yet completed delineating the Drinking Water Supply Management Area. Each municipal supply well has a MnDNR Water Appropriation Permit.

From June 2001 through December 2006, 346 water main segments totaling 51,463.36 linear feet have been installed. Additionally, 930 water laterals have been installed, totaling 26,792.38 linear feet. The extension of municipal water services has resulted in 525 new water connections in the project area during this timeframe.

No new water towers have been constructed since 2001. As the easterly portions of the project area develop, additional water storage will be required. A ground storage reservoir (approximately 1,000,000 gallon capacity) is planned for the hillside across 20th Street SE from the former Boy Scout Camp (Camp Kahler), but a construction date has not been forecast. The reservoir would be connected to the main served from the pressure reducing station on 20th Street SE near Marion Road, and would serve the east and north portions of the project area through a trunk main extending east along 20th Street SE and north along 42nd Avenue SE as this area develops. Some of the lower elevation areas north of TH 14, west of 55th Avenue, and east of the Sunnydale Subdivision could also be served by this reservoir. The reservoir would also serve areas along Marion Road through a trunk main extending south from 20th Street SE along 40th Avenue SE. This main would connect at 30th Street SE and Marion Road with a planned trunk water main extending east from the planned pressure reducing station at 30th Avenue SE along Pinewood Road and 30th Street SE, thereby creating a looped main serving the entire southeast portion of the project area. Rochester Public Utilities anticipates that at least one additional water supply well will be needed to serve the project area if full build out occurs.

In order to provide water service to the approximately one square mile area east of 40th Avenue SE and above an elevation of 1,140 feet, a smaller water tower and/or booster station would be required.

## 14.0 WATER-RELATED LAND USE MANAGEMENT DISTRICT

**Does any part of the project involve a shoreland zoning district, a delineated 100-year flood plain, or a state or federally designated wild or scenic river land use district?** _x_Yes __No

**If yes, identify the district and discuss project compatibility with district land use restrictions.**

There is not a federally listed wild or scenic river in the project area. The water-related land use management districts within the Project Area include the 100-year floodplain and shoreland zoning districts associated with Bear Creek. Badger Run and tributaries to Bear Creek and Badger Run are not part of the floodplain maps or covered by the shoreland provisions of the City's zoning ordinance. There have not been any changes to the standard development procedures that require coordination with the Rochester-Olmsted Planning Department for floodplain and shoreland permits since 2002.

## 15.0 WATER SURFACE USE

**Will the project change the number or type of watercraft on any water body?** __Yes _x_No

**If yes, indicate the current and projected watercraft usage and discuss any potential overcrowding or conflicts with other uses.** Not applicable, as per Environmental Quality Board guidance.

## 16.0 EROSION AND SEDIMENTATION

**Give the acreage to be graded or excavated and the cubic yards of soil to be moved:** Not applicable, as per EQB guidance **acres;** Not applicable, as per EQB guidance **cubic yards. Describe any steep**

**slopes or highly erodible soils and identify them on the site map. Describe any erosion and sedimentation control measures to be used during and after project construction.**

There has been no change regarding the location of steep slopes or highly erodible soils or the anticipated types of earthmoving needs associated with new and future development. Since the 2002 AUAR, the MPCA has strengthened its construction storm water permit program to include sites under 5 acres. Additionally, as a function of Rochester's municipal storm water permit program that was instituted in 2003, City staff regularly inspect construction sites to insure adequate installation and maintenance of erosion and sediment control measures. Additionally, several enforcement mechanisms are used to insure compliance with City grading and drainage standards.

## 17.0 WATER QUALITY: SURFACE WATER RUNOFF

**a. Compare the quantity and quality of site runoff before and after the project. Describe permanent controls to manage or treat runoff. Describe any stormwater pollution prevention plans.**

The Rochester Storm Water Management Plan – Bear Creek Addendum was prepared in March 2004 to assess storm water management needs in four upstream basins of the Bear Creek Watershed that were outside the study boundaries for the 1999 Storm Water Management Plan. A copy of this plan may be viewed at:
http://www.rochesterstormwater.com/docs/Permit-Plans/Bear%20Creek%20Addendum%20March%202004.pdf
This document provides the planning level data needed to convey, store, and treat the expected quantity and quality of site runoff from expected development in these four basins.

In March 2003, the City began implementation of its new Municipal Separate Storm Sewer System (MS4) permit. A Storm Water Pollution Prevention Plan (SWPPP) was prepared to outline the City's best management practices to meet each of the six minimum control measures outlined in the permit requirements. The MPCA issued a revised MS4 permit in 2006 and the City submitted an updated SWPPP. Copies of both SWPPPs may be viewed on the City's Storm Water Web Site:
http://www.rochesterstormwater.com/permits_plans/permitplans_permits.asp.

The City's storm water management requirements for new development have not changed since 2002. As new development occurs, permanent storm water management provisions must be made to provide for conveyance, rate control, and water quality treatment, based upon grading changes and impervious surface increases to meet MPCA and National Pollutant Discharge Elimination System requirements. Drainage reports and grading plans must be submitted and approved prior to the onset of development.

From June 2001 through December 2006, 8,438.75 linear feet of new storm sewer was installed in the AUAR Project Area. This consisted of 126 pipe segments, 24 catch basins, 25 access manholes, 2 outlets, 3 inlets, and 1 dead end. Nine storm water management ponds were also constructed during this time frame within the AUAR Project Area. Five of these will remain private ponds, one is a public pond, and the remainder will become public ponds when the subdivisions are completed. Five of these ponds are currently outside the City limits. Of these, two are expected to be annexed into the City within the foreseeable future.

As part of the 2006 MS4 permit, the City was required to complete a Nondegradation Review for all waters and for Outstanding Resource Value Waters. This process assessed Rochester's total phosphorus and total suspended solids pollutant loads in 1988, 2005, and 2020 and whether those loads were reduced to the required 1988 levels as a function of the City's storm water treatment best management practices.

Results of this modeling effort show that Rochester is meeting the intent of the nondegradation rules, which substantiates the appropriateness of the City's storm water management requirements. A copy of the report can be found on the City's storm water web site at: http://www.rochesterstormwater.com/permits_plans/permitplans_permits.asp.

**b. Identify routes and receiving water bodies for runoff from the site; include major downstream water bodies as well as the immediate receiving waters. Estimate impact runoff on the quality of receiving waters.**

Other than the addition of storm water ponds described above, no new receiving waters exist.

Impacts to receiving waters are controlled through the implementation of the City's storm water management requirements, as described above. This includes the provisions of the MPCA Construction Storm Water (CSW) permit, which is incorporated by reference in the City's grading review, approval, and permitting process. Since 2002, some of the receiving waters have been identified by the MPCA as being impaired and additional impaired waters are expected to be identified with time. MPCA maintains current lists and maps of impaired waters on their web site (www.pca.state.mn.us). There are special requirements for temporary and permanent erosion and sediment control and storm water management in areas draining to impaired waters, as outlined in the CSW permit. Owners and operators of construction projects $\geq$ one acre or $<$ one acre if part of a larger common plan of development are required to apply for, obtain, and implement the CSW permit. Those construction project initiated after 8/1/08 will be required to prepare Storm Water Pollution Prevention Plans (SWPPP) that address the impaired waters and volume control provisions, as required. Projects permitted before 8/1/08 must transfer to the new permit if they will not be completed before 2/1/10, which may require a SWPPP update to address impaired waters and volume control requirements.

It is the obligation of the CSW permittee, not the City, to assess site suitability for volume control BMPs as they relate to specific development proposals to insure compliance with MPCA's CSW permit. Karst geologic conditions present in much of Rochester limit the potential for infiltration in many areas, particularly where drinking water supply management areas need protection. The City maintains comprehensive geographic information system (GIS) data that is available to developers and their engineers to conduct site-specific assessments to determine the potential for infiltration while protecting drinking water resources. The City's GIS data includes the following layers that can assist with this assessment:

- Underlying first encountered bedrock (Minnesota Geologic Survey, Geologic Atlas)
- Depth to bedrock (Minnesota Geologic Survey, Geologic Atlas)
- Aggregate resources (Minnesota Geologic Survey, Geologic Atlas)
- Sinkholes and springs (Minnesota Geologic Survey, Geologic Atlas)
- National Wetland Inventory (US Fish and Wildlife Service)
- Soil Survey Geographic soils data (SSURGO; Natural Resource Conservation Service)
- Locations of municipal water supply wells, with their 1- and 50-year time of travel zones and drinking water supply management areas (Rochester Public Utilities)
- Public waters (Department of Natural Resources)
- Floodplain boundaries (Federal Emergency Management Agency)
- 2006 2-ft contour data (City of Rochester; 11/08 contour data will be available in July 2009)
- 2008 aerial photography (City of Rochester)

Evaluation of depth to groundwater, floodplain impacts, and other constraints must be made on a site-specific basis.

Compliance with MPCA's CSW permit is obtained via several avenues. City staff review grading plans to insure they meet City and state standards, after which grading permits are issued. City staff complete site inspections to verify compliance with erosion and sediment control standards and undertake enforcement actions, as needed. If grading and drainage violations are observed during ESC inspections, they are referred back to the City's grading engineer for correction or enforcement. MPCA also has an obligation to insure compliance with its own permit program.

The City maintains a Geographic Information System (GIS) to map the locations of storm water management features and link associated attribute data. As new development occurs and new features are constructed, their locations are continuously added to the GIS map and pertinent construction information is linked to it so that a comprehensive picture of flow routes is readily available.

As part of the 2002 AUAR, a summary of the special storm water management concerns within the AUAR project area was prepared. Those special concerns are reiterated below, with an update on the status of each noted in italics.

- Subdistricts BC-A1.7, BC-A1.8 and BC-A1.9 all drain to the existing box culvert at 50th Avenue SE (total drainage area of 507 acres). The proposed basin BC-P1.9 is identified to reduce the peak flow rate from this area through construction of a control structure and excavation to provide detention volume for a 100-year discharge rate of 246 cfs. The final design of the basin must include an analysis of the current and ultimate downstream capacity through the residential subdivision north of Marion Road. The channel currently flows through subdivided lots that have not been developed (existing homes are greater than 10 years old). If future development requires this channel to be diverted, flows from BC-P1.9 should be channeled to BC-P1.11. A detailed hydraulic analysis will be required for BC-P1.11 to consider increased volumes and required outlet capacity. BC-P1.8 is an existing basin within BC-A1.8 and currently does not have a stabilized outlet. *This concern is no longer applicable to the City because the land use for this area was changed from Urban development to Suburban (i.e., rural residential) development and is now a County development issue.*
- BC-P1.11 is located within an existing gravel mining site. Runoff from subdistricts BC-A1.7, BC-A1.8, and BC-A1.9 must be directed to this basin by constructing a channel between the existing crossing at 50th Avenue SE and the pond normal water level. Future gravel mining in this area should be oriented toward developing this basin and channel excavation. *There has been no new development in this area necessitating storm water management.*
- BC-P1.15 is a two-cell pond split by Marion Road. The pond was designed to operate as one pond under large storm events. The second cell west of Marion Road acts as the control for water levels in both cells. This will require an equalizer pipe between the two ponds. A 48-inch pipe was assumed in the design. Depending on specific future development of the area, both cells may be shifted to either side of Marion Road if site conditions are adequate. *A Buddhist temple and one home were constructed within this previously developed basin located outside the City limits. This construction did not generate enough added imperviousness to trigger the construction of a new storm water management pond under the County's regulations.*
- BC-P1.21 is located between Marion Road and Badger Run. Final basin design must insure that the tail water effect from the 100-year high water level of Badger Run does not cause this basin to exceed the 100-year high water level. *In anticipation of future expansion, the property owner of the Marion Commercial Center has constructed two storm water ponds. The adjacent property owner, S & P Brick, installed a detention basin as a shoreland protection measure to*

*enable paving of a pre-existing parking lot. No other General Development Plans have been submitted for this area.*

- BC-P1.23 is indicated as a two-cell pond split by the crossing of 30th Avenue SE due to existing land constraints in the lower portion of the drainage area. Optimum final pond design would shift both cells to one side of the road if sufficient land can be acquired at the time of construction. The stream bank and floodplain along the south side of Badger Run in this area would benefit greatly from the combined effects of stream bank restoration and pond construction. *There has been no new development affecting this area.*
- BC-P2.8 has been located north of 19th Street SE based on the current level of development in the area. An alternative location for this basin, depending on future development, would shift BC-P2.8 west to the north of 20th Street SE. The trunk storm sewer would then be realigned to direct flows from 19th Street to this basin. *There has been no new development affecting this area.*
- BC-P2.15 was designed to control runoff from subdistrict BC-A2.15. Future development north of 20th Street SE should include grading the ditch along 20th Street and channel construction to direct flows to this basin. This basin was located based on existing forested areas south of 20th Street. Future reconstruction of 20th Street should include the construction of a trunk storm sewer. *There has been no new development affecting this area.*
- Subdistricts BC-A2.16 A and B include 405 acres of land zoned for low-density residential and commercial development. Approximately 60 percent of the area in the lower portion of the watershed has been developed. A stormwater facility to control runoff rates has not been constructed at this time. Basin BC-P2.16a is proposed to decrease the discharge rate to downstream storm sewers to prevent surcharging. Future development within subdistrict BC2.16a that cannot be directed to this basin must insure that the downstream storm sewers have adequate capacities. *There has been no new development affecting this area. Fifty-two single family residential lots and one addition to a commercial building were constructed in area BC-A2.16b. This infill development did not require the construction of new ponds because the storm water management needs associated with that anticipated growth was accounted for when storm water ponds #155, #22 and #116 were constructed.*
- Subdistrict SC-A1.8 contains a high-quality wetland complex located within the State Wildlife Refuge. A regional stormwater facility was not designed north of TH 14 in this area to receive runoff. Development within this area must include on-site stormwater basins to limit peak discharge rates and provide water quality wet volume for runoff from a 1.8 inch, 6-hour storm event. SC-P1.8 was designed as a two-cell pond to treat runoff from future development south of TH 14. *Valley Side Estates developed within a small portion of Subdistrict SC-A1.8, but the runoff was directed to BDa2.6 and ponds #125 and #214. No other changes to Subdistrict SC-A1.8.*
- Runoff from approximately 2,000 acres of Mayo Run must pass under 13th Avenue through the existing 4-foot × 10-foot box culvert. *Rochester Towne Club development in the Mayor Run Drainage District was mitigated by ponds #323, 293, and 294.*

## 18.0 WATER QUALITY: WASTEWATERS

**a. Describe sources, composition and quantities of all sanitary, municipal and industrial wastewater produced or treated at the site.**

No change.

**b. Describe waste treatment methods or pollution prevention efforts and give estimates of composition after treatment. Identify receiving waters, including major downstream water bodies, and estimate the discharge impact on the quality of receiving waters. If the project involves on-site sewage systems, discuss the suitability of site conditions for such systems.**

No change.

**c. If wastes will be discharged into a publicly owned treatment facility, identify the facility, describe any pretreatment provisions and discuss the facility's ability to handle the volume and composition of wastes, identifying any improvements necessary.**

The installation of three sanitary sewer sub-trunk lines were anticipated in the 2002 AUAR, as listed below. Each installation occurred according to the anticipated timeframe and at the anticipated location.

- 20th St Sub-Trunk Sewer – The 20th St. Sub-Trunk Sewer was constructed, as planned, between Marion Road SE and 37th Ave. SE in 2001. An additional segment was installed from 37th Ave. SE to 40th Ave. SE in 2004, in conjunction with Olmsted County's reconstruction of the 20th St. bridge over Bear Creek.

- Badger Run Sub-Trunk Sewer – This sub-trunk sewer was installed in 2002, as planned. It connected to the Marion Road Trunk Sewer near the intersection of 30th Ave. SE and 22nd St. SE and then extended south along 30th Ave. SE to the north side of Badger Run. From there, it extended east/southeast along the north side of Badger Run to 32nd St.

- Bear Creek Sub-Trunk Sewer – Phase II was installed during the 2004 construction season, connecting at the end of the 20th Street (Phase I) project at approximately 37th Ave. SE and extending to 40th Ave SE. Phase III extended this sub-trunk in 2006 from 40th Ave. SE, north to 19th St. SE then east to 42nd Ave SE and then northwest to Eastwood Rd.

The City maintains a Geographic Information System (GIS) to map the locations of sanitary sewer lines and link associated attribute data. As new development occurs and new features are constructed, their locations are continuously added to the GIS map and pertinent construction information is linked to it so that a comprehensive picture of flow routes is readily available. The installation of the three sub-trunk sewers noted above and their local connections added 65,166.7 linear feet of sanitary sewer line to the sewer system added within the AUAR Project Area from June of 2001 through December 2006. The added sanitary sewers consisted of 291 pipe segments with 230 access manholes. Five hundred and thirty-nine sewer connections were made to individual homes and businesses from 2002 through 2006.

Approximately 970 existing individual septic systems serve homes or businesses within the AUAR Project Area. The City Council adopted a policy in 1992 whereby the City does not require any existing home or business owner to connect to City sewer when it is installed to serve a particular subdivision, as long as their private septic system is in good operating condition. In subdivisions with available City sewer and/or water services, connection is required when the respective private systems fail. Transitions from septic systems to City sewer in the project area will take many years. Additionally, new interim development is allowed to proceed with septic systems until sewer service becomes available.

The 1996 Wastewater Treatment Master Plan for the Rochester Water Reclamation Plant (RWRP) indicated that the RWRP had sufficient capacity available to serve wastewater flows generated in the Project Area through 2008. Due to the significant growth of Rochester in other sectors of the City,

RWRP initiated an expansion in January 2005. Construction was completed such that the RWRP addition went on line in summer 2007. This addition results in a 5 mgd increase in capacity.

A small subdivision located known as Chester Heights is located approximately two miles east of Rochester (outside of the AUAR Project Area). Its residents desired a conversion from septic systems to a sanitary sewer conveyance and wastewater treatment system so they created a Subordinate Service District (SSD). On their behalf, Olmsted County entered into the "Chester Heights Subordinate Service District Sanitary Sewer Connection Agreement" with the City of Rochester in October 2002 to have the City accept and treat their sanitary wastewater. The Chester Heights SSD installed a private sanitary sewer collection system, sewer pumping station and connected the private system via force main to a City manhole that is located at 40th Avenue and Kelly Lane SE. From there, the sewage is transported to the Rochester Water Reclamation Plant through the City-owned Bear Creek sub-trunk line sanitary sewer. The private sewer system is under the sole ownership and management of Olmsted County on behalf of the Chester Heights SSD property owners. The City contributed $250,000 in funding from sales tax revenue for this project as part of its Water Quality Protection Program. Although Chester is outside the AUAR Project Area, the waste from their trunk line drains into the sanitary sewer system within the AUAR Project Area.

Other changes in sanitary sewage conveyance were made outside the AUAR Project Area had an effect within it. First, portions of the People's Cooperative sanitary sewer sub-trunk line (originally constructed in 1971) were upsized in 2006 to provide capacity for the Rochester Towne Club development that was platted on the north edge of the Project Area within the former location of the Eastwood golf course.

Sewage from 100 lots within the Eastwood Hills subdivision (within the AUAR Project Area) was diverted to the new Bear Creek trunk sewer in 2006. Additionally, the Valley Side Estates subdivision sanitary sewer was also diverted to the new Bear Creek trunk sewer at the same time. Prior to 2006, Valley Side Estates utilized a private pumping station and pumped sewage via force main to 40th Ave. SE and Kelly Ln. SE. These diversions were made to provide capacity for the Rochester Towne Club development.

**d. If the project requires disposal of liquid animal manure, describe disposal technique and location and discuss capacity to handle the volume and composition of manure. Identify any improvements necessary. Describe any required setbacks for land disposal systems.**

Not applicable.

## 19.0 GEOLOGIC HAZARDS AND SOIL CONDITIONS

**a. Approximate depth (in feet) to groundwater: 0-2 minimum 10-20 average to bedrock: 0 minimum 100 average**

**Describe any of the following geologic site hazards to groundwater and also identify them on the site map: sinkholes, shallow limestone formations or karst conditions.**

No change.

**Describe measures to avoid or minimize environmental problems due to any of these hazards.**

The City amended its wetland ordinance to add provisions to protect water recharge areas within the Decorah Edge geologic setting. See Section 8 for more details.

**b. Describe the soils on the site, giving NRCS (SCS) classifications, if known. Discuss soil granularity and potential for groundwater contamination from wastes or chemicals spread or spilled onto the soils. Discuss any mitigation measures to prevent such contamination.**

No change.

## 20.0 SOLID WASTES, HAZARDOUS WASTES, STORAGE TANKS

**a. Describe types, amounts and compositions of solid or hazardous wastes, including solid animal manure, sludge and ash, produced during construction and operation. Identify method and location of disposal. For projects generating municipal solid waste, indicate if there is a source separation plan; describe how the project will be modified for recycling. If hazardous waste is generated, indicate if there is a hazardous waste minimization plan and routine hazardous waste reduction assessments.**

No change regarding per capita waste production estimates. Olmsted County, the local solid waste management authority, started construction in 2008 to add a third combustion unit to the waste-to-energy facility to increase their waste management capacity. This change will save landfill space and increase their energy production capacity. The number of hauling companies that collect municipal solid waste within the County has increased from two to five.

**b. Identify any toxic or hazardous materials to be used or present at the site and identify measures to be used to prevent them from contaminating groundwater. If the use of toxic or hazardous materials will lead to a regulated waste, discharge or emission, discuss any alternatives considered to minimize or eliminate the waste, discharge or emission.**

No change.

**c. Indicate the number, location, size and use of any above or below ground tanks to store petroleum products or other materials, except water. Describe any emergency response containment plans.**

No change.

## 21.0 TRAFFIC

**Parking spaces added:** Not applicable, as per Environmental Quality Board guidance. **Existing spaces (if project involves expansion):** Not applicable, as per Environmental Quality Board guidance. **Estimated total average daily traffic generated:** Not applicable, as per Environmental Quality Board guidance. **Estimated maximum peak hour traffic generated (if known) and time of occurrence:** Not applicable, as per Environmental Quality Board guidance.

**Provide an estimate of the impact on traffic congestion on affected roads and describe any traffic improvements necessary. If the project is within the Twin Cities metropolitan area, discuss its impact on the regional transportation system.**

The Rochester-Olmsted Council of Governments (ROCOG) completed an update to the Transportation Plan in September 2005 and amended it in 2007. These documents can be viewed at:

http://www.co.olmsted.mn.us/planning/rocog_2035_long_range_transportation_plan_(last_updated_september_2005).asp.

One of the 2007 amendments was the development of a new chapter focused on environmental and planning considerations. This chapter identifies strategies to:

- address community impacts and avoid or mitigate environmental impacts in a better manner,
- employ strategies to better protect the environment,
- link planning, public participation, and environmental review processes to streamline project delivery and eliminate redundant decision-making processes,
- complete Early Project Development studies for projects requiring environmental review
- utilize Context Sensitive Design and Value engineering on major projects

This chapter also provides suggestions for improving intergovernmental coordination and cooperation for transportation planning.

As part of the 2007 amendment process, traffic volumes (measured as average daily traffic counts or ADTs) were newly modeled in 2006. The 2006 ROCOG data shows that the growth rate in this area is lower than expected, with a drop in the Project Area from 118,830 ADT in 2002 to approximately 117,590 in 2006. Table I-5 below compares, by major road segment, the 2002 ADTs with those modeled in 2006.

**TABLE I-5**
**CHANGES IN TRAFFIC VOLUMES**
**Using Average Daily Traffic Counts (ADTs)**

| Street Segment | 2002 ADTs | 2006 ADTs |
|---|---|---|
| Pinewood Road and 30th Ave. SE | 2,000 | Not modeled* |
| Marion Road from Pinewood Road to 22nd St. SE | 6,200 | 4,450 |
| Marion Road from Park Lane SE to 22nd St. SE | 7,100 | 6,000 |
| Marion Road from Eastwood Road to Park Lane SE | 13,400 | 12,800 |
| Marion Road from TH 14 to Eastwood Road | 15,900 | Not modeled* |
| TH 14 from 11th Ave. SE to UCR Drive | 21,700 | 21,300 |
| TH 14 from UCR Drive to 30th Ave. SE | 15,300 | 16,700 |
| TH 14 from 30th Ave. SE to 36th Ave. SE | 13,000 | 13,000 |
| TH 14 from 36th Ave. SE to 50th Ave. SE | 11,700 | 10,200 |
| Eastwood Road from Marion Road to Harbor Drive SE | 3,950 | 5,600 |
| Eastwood Road from Harbor Drive SE to 40th Ave. SE | 280 | 1,000 |
| 40th Ave. SE | 1,800 | 2,600 |
| 20th St. SE from Marion Road to 42nd Ave SE | 2,500 | 1,800 |
| 20th St. SE from 42nd Ave. SE to 50th Ave. SE | 650 | 640 |
| 50th Ave. SE | 3,350 | 3,600 |

Just north of the AUAR Project Area, an unanticipated roadway change was the construction of Town Club Parkway within the Rochester Towne Club development. It was constructed as a north-south connector street between TH 14 and Eastwood Rd. SE and will affect the AUAR Project Area when the property to the south is developed and the road is extended. ROCOG has given this street a functional classification of secondary urban arterial. Sidewalks were constructed in conjunction with this roadway to provide for pedestrian traffic. As a result of this construction, Town Club Parkway will serve as an

alternative alignment to a future 40th Ave. SE improvement until such time as traffic volumes increase to justify a 40th Ave. SE extension. Additionally, this change eliminated approximately ¼ mile of Eastwood Road, disconnecting it as a through street from Marion Road to 40th Ave. SE. Now Eastwood Road extends from Marion Road to Harbor Drive SE and from Towne Club Parkway to 40th Ave. SE.

The extension of 20th St. SE from 11th Ave. SE to Marion Road was anticipated in the 2002 AUAR. Planning for that street connection began in 2006 and efforts are currently at the environmental review and preliminary design stage. It is anticipated that construction will commence in late 2009. Traffic modeling was completed for this road connection and the results are presented in Table I-6 below.

**TABLE I-6**
**20th ST. SE CONNECTION TRAFFIC MODEL RESULTS AND FORECASTS**
**(VEHICLES PER DAY)**

| Street | Year 2000 without 20th Street Connection | Year 2030 without 20th Street Connection | Year 2000 with 20th Street Connection | Year 2030 with 20th Street Connection | Approximate Capacity (LOS C) | Approximate Capacity (LOS D) |
|---|---|---|---|---|---|---|
| **TH 14** | | | | | | |
| TH 14, W. of 11th Ave. | 24,622 | 34,463 | 25,294 | 32,921 | 30,700 | 36,600 |
| TH 14, 11th to Marion | 27,781 | 45,173 | 25,398 | 40,716 | 30,700 | 36,600 |
| TH 14, E. of Marion | 18,051 | 36,049 | 18,090 | 35,346 | 30,700 | 36,600 |
| **Pinewood/30th** | | | | | | |
| Pinewood, E. of 11th | 3,063 | 11,769 | 1,607 | 7,602 | 7,900 | 9,400 |
| Pinewood, W. of 30th | 2,251 | 8,746 | 410 | 4,551 | 7,900 | 9,400 |
| 30th, N. of Pinewood | 1,513 | 5,086 | 572 | 2,113 | 7,900 | 9,400 |
| **11th Avenue** | | | | | | |
| 11th Ave., S. of Pinewood | 6,825 | 15,547 | 6,408 | 15,659 | 26,400 | 31,400 |
| 11th Ave., S. of 20th | 8,253 | 21,935 | 7,325 | 19,917 | 26,400 | 31,400 |
| 11th Ave., N. of 20th | 8,243 | 24,470 | 10,976 | 26,149 | 26,400 | 31,400 |
| 11th Ave., S. of TH 14 | 10,714 | 26,595 | 12,275 | 26,450 | 26,400 | 31,400 |
| **Marion Road** | | | | | | |
| Marion Rd., S. of 20th | 4,724 | 11,192 | 5,243 | 12,837 | 26,400 | 31,400 |
| Marion Rd., N. of 20th | 5,817 | 13,892 | 3,253 | 11,646 | 26,400 | 31,400 |
| Marion Rd., S. of TH 14 | 15,411 | 23,932 | 11,212 | 18,202 | 26,400 | 31,400 |
| Marion Rd., N. of TH 14 | 13,160 | 21,464 | 11,873 | 19,335 | 26,400 | 31,400 |
| **20th Street** | | | | | | |
| 20th St., W. of 11th Ave | 4,504 | 17,805 | 5,451 | 18,960 | 19,600 | 23,300 |
| 20th St., 11th to Marion | 0 | 0 | 6,170 | 13,747 | 13,700 | 16,300 |
| 20th St., E. of Marion | 1,825 | 6,145 | 1,972 | 7,102 | 7,900 | 9,400 |

Note: There is an inconsistency in whether traffic numbers increase or decrease with or without the 20th SE Street Connection. When a new street is opened, it creates a shorter travel path for some drivers compared to their previous route and they will most often choose the shorter route.
**Source:** ROCOG (Traffic Volumes).

No new intersection analyses have been conducted in the AUAR Project Area since 2002.

No changes to the transit system have been made for this area.

In 2007, Rochester-Olmsted Planning Department staff introduced a discussion about developing a "Complete Streets" policy in an effort to integrate opportunities to enhance the safety, convenience, and comfort of residents and the traveling public while promoting physical activity and quality of life. A draft policy was crafted jointly with the Rochester Public Works Department and will be considered for adoption by the City in the near future. This initiative is still in the early planning stages and there are no specific outcomes at this time, as they relate to the AUAR area. If new plans, policies, or procedures are adopted as a result of this planning project, they will be adhered to as part of the development review process and more details will be provided in the future AUAR Update #2.

## 22.0 VEHICLE-RELATED AIR EMISSIONS

**Estimate the effect of the project's traffic generation on air quality, including carbon monoxide levels. Discuss the effect of traffic improvements or other mitigation measures on air quality impacts. Note: If the project involves 500 or more parking spaces, consult *EAW Guidelines* about whether a detailed air quality analysis is needed.**

No change. An air quality analysis was completed for the 20th St. SE Connection project to assure that this project would not be in violation of the National Ambient Air Quality Standards or the MN carbon monoxide (CO) standards. Mobile62 and CAL3QHC were used to model the CO concentrations. Modeled CO concentrations did not exceed state or federal one-hour or eight-hour standards.

## 23.0 STATIONARY SOURCE AIR EMISSIONS

Not applicable, as per Environmental Quality Board guidance.

## 24.0 ODORS, NOISE, AND DUST

**Will the project generate odors, noise or dust during construction or during operation? _X_ Yes __No**

**If yes, describe sources, characteristics, duration, quantities or intensity and any proposed measures to mitigate adverse impacts. Also identify locations of nearby sensitive receptors and estimate impacts on them. Discuss potential impacts on human health or quality of life. (Note: fugitive dust generated by operations may be discussed at item 23 instead of here.)**

No change with respect to construction noise. Traffic noise will increase in conjunction with the construction of the 20th St. SE Connection project. A noise analysis was completed for the federal Environmental Assessment document for that project. The results indicated that traffic noise will increase under both the no build and build scenarios and the noise analysis demonstrated that noise walls were feasible and reasonable at the NW, SW, and SE intersections of 11th Ave. SE and 20th St. SE. Oftentimes, residents in pre-existing neighborhoods do not wish to have pedestrian access and views blocked by the construction of noise walls. The matter will be brought before the City Council and if they deem the noise walls to be unnecessary or unwanted, they may adopt a resolution to that effect and the noise walls will not be built.

## 25.0 NEARBY RESOURCES

**Are Any of the Following Resources on or in Proximity to the Site?**

a. **Archaeological, historical or architectural resources?** x **Yes** __**No**
b. **Prime or unique farmlands or land within an agricultural preserve?** x **Yes** __**No**
c. **Designated parks, recreation areas or trails?** _x_ **Yes** __**No**
d. **Scenic views and vistas?** _x_ **Yes** __**No**
e. **Other unique resources?** x **Yes** __**No**

**If yes, describe the resource and identify any project-related impacts on the resource. Describe any measures to minimize or avoid adverse impacts.**

### 25.1 Archeological, Historic, and Architectural Resources

Project specific cultural resource surveys were completed for the Bear Creek Sanitary Sewer project and the 20th St. SE Connection project. There were no areas with a high or moderate potential for archaeological resources identified based on their topographic location, proximity to water resources, and relative lack of site disturbance for either project. There were no impacts to historical or architectural resources for either project. Copies of the reports for each project are available from the Rochester Public Works Department. No other cultural resource surveys were completed in the AUAR Project Area between 2002 and 2006.

The 2002 AUAR noted that the project area contained several structures that were determined to be older than 50 years and may have some historic architectural significance. In particular, it noted that two tourist cabin-lodging establishments were located within the project area on the south side of Marion Road in Sections 7 and 17. The owner of the tourist cabins in Section 17 made an effort to sell or give away some of their tourist cabins. In the absence of any interested parties, they gave the local fire department permission to burn several for practice.

### 25.2 Prime or Unique Farmlands

The project area is not within the resource (agricultural) protection areas identified in the *Olmsted County General Land Use Plan*. Cropland cover type decreased from 2002 to 2006 by 212.34 acres; none of which are classified as prime or unique farmlands.

### 25.3 Designated Parks, Recreation Areas, or Trails

At the time of the 2002 AUAR, the City's *Parkland Acquisition Plan* anticipated two park-related actions within the AUAR Project Area:

1. Acquisition of the 77 acre Kepp parcel to extend McQuillan Park.
2. Receipt of the title to Parkside Park

In 2002, the City acquired the 77 acre Kepp parcel, as planned, to become McQuillan South Park. To date, the County has not transferred title to the City for Parkside Park.

As anticipated, unspecified parkland was dedicated to the City in conjunction with new residential development. In 2003, 4.8 acres of parkland was dedicated to the City from the Valley Side Estates development to become Valley Side Park.

An unanticipated parkland action resulted from the proposed development of Rochester Towne Club, a mixed used neighborhood. This proposal resulted in a land trade of approximately 89 acres of the west half of the existing Eastwood Golf Course on the north side of Eastwood Road to become a combination of residential and commercial land use. This portion is outside the AUAR Project Area; it was traded for approximately 89 acres of land on the south side of Eastwood Road, within the AUAR Project Area, which has been developed into 9 new golf holes to equally compensate for the loss of 9 holes from original golf course location. This resulted in a net gain of 89 acres of park and open space within the AUAR Project Area that had not been predicted when the 2002 AUAR was developed.

A Suburban Development outside the City Limits but within the AUAR Project Area known as Cambridge Hills set aside three outlots totaling 30 acres that will be permanently maintained as prairie habitat. This open space is to be maintained by the homeowner's association. Similarly, 7 acres of common open space was set aside when the Villas of Valley Side, a phase of Valley Side Estates, was developed. This open space will be maintained as turf by the homeowner's association. The Wildwood Meadows subdivision set aside 0.6 acres of permanent open space associated with a private storm water management pond that was not accounted for by other methods. Valley Side Estates Third, a phase of Valley Side Estates, set aside 2.1 acres of permanent open space associated with a public storm water management pond that was not accounted for by other methods.

No new bike/pedestrian trails were added to the AUAR Project Area since 2002, but a sidewalk was constructed adjacent to Town Club Parkway to provide for pedestrian movement.

The total amount of land permanently set aside as park or open space since the 2002 AUAR was 210.5 acres.

The City's Parkland Dedication Ordinance was adopted in May 1999 and the *Parkland Acquisition Plan* was developed in August 1999. No updates to either the Ordinance or the *Plan* have been made since that time. When the 2002 AUAR was prepared, the Rochester Park and Recreation Department staff anticipated that a *Parkland Acquisition Plan* update would be prepared within five years to identify future park needs in the AUAR project area. Since that time, Park and Recreation Department staff have determined that updates of the *Parkland Acquisition Plan* are not warranted due to the consistency and adequacy with which the parkland dedication requirements have been met with each new development. There are no plans to update the *Parkland Acquisition Plan* within the next five years.

Additionally, the Public Works Department staff require that land be set aside, either in public or private ownership, for storm water management purposes through acquisition or dedication, providing for additional open space. Where feasible, storm water management lands are located near parklands and protected wetlands in order to create or extend environmental corridors. With the newly modified Wetland Ordinance that requires enhanced protection of water features (wetlands, springs, seeps, and flow paths) within the Decorah Edge geologic setting (see Item 8), future protection of environmental corridors will be enhanced.

As part of the environmental review and preliminary design process for the 20th St. SE Connection project, the City prepared a Draft Programmatic Section 4(f)/6(f) Evaluation to identify parkland impacts and planned mitigation measures. This document identified 2.33 acres of Section 6(f) impacts, 29.06 acres of temporary Section 4(f) impacts, and 10.76 acres of permanent Section 4(f) impacts. More details about this analysis can be found in the *2008 Environmental Assessment for the 20th St. SE Connection Project in Rochester, MN.*

25.4 Scenic Views and Vistas

No changes.

25.5 Other Unique Resources

No changes.

## 26.0 VISUAL IMPACTS

**Will the project create adverse visual impacts during construction or operation? Such as glare from intense lights, lights visible in wilderness areas and large visible plumes from cooling towers or exhaust stacks? __Yes _x No**

**If yes, explain.**

No change.

## 27.0 COMPATIBILITY WITH PLANS

**Is the project subject to an adopted local comprehensive plan, land use plan or regulation, or other applicable land use, water, or resource management plan of a local, regional, state or federal agency? _x Yes __ No.**

**If yes, describe the plan, discuss its compatibility with the project and explain how any conflicts will be resolved. If no, explain.**

There has been no change regarding compatibility with the City's various plans that constitute its comprehensive plan. See earlier Sections to identify the dates of updates for specific plans. In the 2002 AUAR, the Orderly Annexation Plans for the AUAR Project Area were identified. These annexations have been proceeding as planned.

## 28.0 IMPACT ON INFRASTRUCTURE AND PUBLIC SERVICES

**Will new or expanded utilities, roads, other infrastructure or public services be required to serve the project?_x_ Yes __ No.**

**If yes, describe the new or additional infrastructure or services needed.**

With the exception of the roadway changes discussed in the Traffic Section, there have not been any unexpected changes associated with plans for new transportation, infrastructure, schools, or emergency services. As expected and as discussed in prior Sections, infrastructure has expanded with new development. Since the Spring of 2002 the following infrastructure additions have been made:

## 29.0 CUMULATIVE IMPACTS

No change.

## 30.0 OTHER POTENTIAL ENVIRONMENTAL IMPACTS

**If the project may cause any adverse environmental impacts not addressed by items 1 to 28, identify and discuss them here, along with any proposed mitigation.**

No change.

## 31.0 SUMMARY OF ISSUES

**List any impacts and issues identified above that may require further investigation before the project is begun. Discuss any alternatives or mitigative measures that have been or may be considered for these impacts and issues, including those that have been or may be ordered as permit conditions.**

No change.

**RGU CERTIFICATION.**

No Change.

## PART II – MARION ROAD TRUNK SANITARY SEWER PROJECT AUAR MITIGATION PLAN UPDATE #1

The 2002 AUAR and its Mitigation Plan were adopted by the Rochester City Council on June 17, 2002. The Mitigation Plan specified the measures, institutional controls, and oversight authority for each issue or feature receiving unacceptable development impacts.

Table 2-1 replicates the 2002 Summary of Mitigation Measures and adds an assessment of implementation progress for each measure. Sections in the 2002 AUAR that did not necessitate mitigation are absent from Table 2-1.

An assessment of mitigation implementation indicates that, in general, implementation is proceeding as planned, in accordance with local, state, and federal regulations. However, changes in mitigation approach happened in the following areas. It is believed that the changes noted are equivalent to or better than the respective mitigation concepts envisioned in 2002.

1. Creation of a unique database to track changes within the AUAR Project Area was not needed, as anticipated. Instead, staff learned that databases already developed within the City's Geographic Information System (GIS) could provide this function.
2. A stewardship approach to protection within the Decorah Edge geologic setting was supplanted with a more stringent ordinance approach.
3. A stewardship approach to evaluation of aggregate resources was not needed because market forces, via the reconstruction of TH 52, drove this effort.
4. The approaches to evaluate and address traffic issues that were envisioned at the time the AUAR was prepared were supplanted by a comprehensive transportation planning process that culminated with an updated Transportation Plan in 2005 and amendments to that Plan in 2007.
5. Instead of being shared universally with all property owners in the AUAR Project Area, distribution of AUAR data happens on a development by development case, via the development review process, where property owners are most receptive to understanding development limitations and protection options.

As discussed in Section I, the Park and Recreation Department opted not to update its Parkland Acquisition Plan. Since the City, through multiple departments, has successfully preserved a significant amount of parkland and open space (~4,500 acres or 13%) through its existing land acquisition methods and because future acquisition planning is at the discretion of the Park and Recreation Department, it is suggested that associated mitigation measure hereby be omitted. It should be noted that Olmsted County is in the early stages of preparing an Open Space element for its Land Use Plan. Jurisdiction for adopting and implementing this plan resides with Olmsted County and is not part of the City's comprehensive plan, however, this process may yield data, policies, programs, projects, or ideas that may be useful and applicable within the AUAR project area. No other changes have occurred since 2002 that necessitate the adoption of additional mitigation measures or the modification of other existing measures. Therefore, replication of the full text from the 2002 Mitigation Plan will not be incorporated.

# Table 2-1
## 2002 AUAR Summary of Mitigation Measures and Implementation Assessment

| Impacted Feature | Mitigation Measure(s) | Institutional Control | Oversight Authority | Implementation Assessment |
|---|---|---|---|---|
| **LAND USE** - TRANSITIONAL LOT SIZE/DEVELOPMENT DENSITIES (potential land use conflicts when new development at urban densities is proposed adjacent to existing large lot residential development). | Mitigation relates to lot size requirements (development density) that guide compatibility between proposed development adjacent to developed areas. | The City and county have policies that encourage context-sensitive design when planning subdivisions adjacent to existing development:<br>• *City of Rochester Code of Ordinances (Sec.64.111),*<br>• *Olmsted County General Land Use Plan, and*<br>• *County Zoning Ordinances.* | Rochester-Olmsted Planning Department as part of the development review process. | Implemented, as required by local regulations. |
| **LAND USE** - DEVELOPMENT DENSITY | Require developers to submit electronic plats in CAD, Micro Station, GIS or other format compatible with the City's software requirements. City will develop a database that records the number of units (housing units or industrial/commercial square feet) in project area. | Mitigation measure implemented by this AUAR. | Rochester-Olmsted Planning Department as part of the development review process. | The City discovered that it did not need to create a new database to track AUAR Project Area changes because it already had the necessary query capabilities within its GIS databases. Tracking accomplished, as planned. |
| **FISH, WILDLIFE, ECOLOGICAL RESOURCES** – THREATENED AND ENDANGERED SPECIES (Blanding's turtle, Blue racer snake, and black redhorse fish) | The protection, avoidance, minimization, and or mitigation of impacts. | *Federal Endangered Species Preservation Act of 1973, as amended in 1978, 1982, and 1988.* | U.S. Fish & Wildlife Service (Federal T&E species lead) prior to development. | No additional federal review triggered by new developments. |
| | | *Minnesota Statutes Chapter 84.0895 and Minnesota Rules Chapter 6134.* | Minnesota Department of Natural Resources Natural Heritage Program (State T&E species lead) prior to development. | • With the DNR, develop a suitable potential Wood Turtle nesting area in the NW portion of Kepp Park.<br>• Sustain the existing wooded riparian buffers in Kepp Park and on the portions of the Ratzloff parcel purchased for the 20th St. Project and protect them from future development. |
| | | *City of Rochester Code of Ordinances.* | Rochester-Olmsted Planning Department as part of the development review process. | Implemented, as required by local regulations. |
| **FISH, WILDLIFE, ECOLOGICAL RESOURCES** – WILDLIFE HABITAT (Woodlands, prairie, grasslands, wetlands, etc.) | The protection, avoidance, minimization, and or mitigation of impacts. | • *City of Rochester Code of Ordinances*<br>• *Olmsted County General Land Use Plan* | Rochester-Olmsted Planning Department as part of the development review process. | Implemented, as required by local regulations. |

## Table 2-1
## 2002 AUAR Summary of Mitigation Measures and Implementation Assessment

| Impacted Feature | Mitigation Measure(s) | Institutional Control | Oversight Authority | Implementation Assessment |
|---|---|---|---|---|
| **WATER USE** - GROUNDWATER | Replace failing septic systems with City sewer and provide City water in lieu of private wells. | City WQPP to extend sanitary sewer and water service to homes and businesses with failing and substandard septic systems and wells. | Rochester Public Works as part of the WQPP. | Implemented, as planned. |
| | Abandon wells and septic systems upon connection to City services. | All wells abandoned will follow rules and regulations established by the MDH *(Minnesota Rules Chapter 4725).* | Rochester Public Works as part of the WQPP. | Property owners are responsible for abandoning wells as water connections are made unless they receive an MDH well maintenance permit. |
| | | All septic systems abandoned will follow *MN Rules Chapter 7080 and Olmsted County Public Health Regulation Number 41.* | | Property owners are responsible for abandoning septic systems as sanitary sewer connections are made. |
| | Protection of public water supply. | *Wellhead Protection Plan* is in preparation for the area. | Rochester Public Utilities Commission (lead) and Minnesota Department of health. | Rochester Public Utilities Wellhead Protection Plan has been approved by MDH and is being implemented by RPU, as planned. Modeling is complete for new well (#39) and it has been added to the WHP. |
| **WATER USE** - GROUNDWATER AND SURFACE WATER | Appropriate dewatering methods during construction projects. | Water Appropriation Permit program for dewatering due to shallow groundwater for construction projects if greater than or equal to 10,000 gallons per day or one million gallons per year. | Minnesota Department of Natural Resources prior to dewatering. | Implemented, as required by state regulations. The MPCA NPDES construction storm water permit requirements also address dewatering. |
| | Contracts for public projects will require the investigation and evaluation of potential dewatering impacts to adjacent shallow wells with a requirement to install temporary water service if warranted by impacts. | Project design and contracting processes. | Rochester Public Works as part of the project design and contracting process. | Implemented, as planned via incorporation into project specifications. |
| **PHYSICAL IMPACT ON WATER RESOURCES and WATER RELATED LAND USE MANAGEMENT** - WETLANDS AND THEIR ASSOCIATED SPRINGS AND SEEPS | The protection, avoidance, minimization, and or mitigation of impacts. | U.S. Army Corps of Engineers *Section 404 of the Clean Water Act Permits* | U.S. Army Corps of Engineers prior to wetland impacts. | Implemented, as required by federal regulations. |
| | | *Minnesota Wetland Conservation Act Permits, Letters of Permission and General Permits. (City Stormwater Management Plan and Comprehensive Wetland Management Plan provide technical guidance.)* | Olmsted County and City of Rochester Wetland Conservation Act Local Governmental Units prior to wetland impacts. | Implemented, as required by state and local regulations. Additionally, City and County wetland regulations amended to add requirements to protect wetlands, springs and seeps in the Decorah Edge geologic setting. |

# Table 2-1
## 2002 AUAR Summary of Mitigation Measures and Implementation Assessment

| Impacted Feature | Mitigation Measure(s) | Institutional Control | Oversight Authority | Implementation Assessment |
|---|---|---|---|---|
| **PHYSICAL IMPACT ON WATER RESOURCES and WATER RELATED LAND USE MANAGEMENT** - WATER USE - FLOODWAYS, 100 YEAR FLOODPLAINS, SHORELANDS, AND FLOODPRONE AREAS | The protection, avoidance, minimization, and or mitigation of impacts. | *44 CFR 60.22-Floodprone Areas, Part C; Flood Control Permit U.S. Army Corps of Engineers.* | U.S. Army Corps of Engineers prior to impacting flood prone areas or floodplains. | Implemented, as required by federal regulations. |
| | | *Minnesota Department of Natural Resources Floodplain Management, Protected Water, and Shoreland Programs.* | Minnesota Department of natural Resources prior to impacting floodplain or shoreland. | Implemented, as required by state regulations. |
| | | • *Olmsted County Floodplain Review*<br>• *City of Rochester Code of Ordinances. (City Stormwater Management Plan and Comprehensive Wetland Management Plan provide technical guidance.)* | Rochester-Olmsted Planning Department as part of the development review process. | Implemented, as required by local regulations. |
| **EROSION AND SEDIMENTATIION and WATER QUALITY-SURFACE WATER RUNOFF** - SOIL EROSION AND SEDIMENTATION, STREAM BANK EROSION | Grading and Erosion Control Plan preparation and review, with site ESC inspections | *City of Rochester Code of Ordinances.* | Rochester Public Works prior to development and during construction. | Implemented, as required by local regulations. |
| | Preparation and development of a Storm Water Pollution Prevention Program | NPDES Phase II MS4 permit due in March 2003. | Rochester Public Works and Marion Township. | Implemented, as required by state regulations. Additionally, the MS4 permit was revised in 2006 and new SWPPPS were prepared by each permittee and implemented accordingly. |
| **EROSION AND SEDIMENTATIION and WATER QUALITY-SURFACE WATER RUNOFF** - SLOPES (GREATER THAN 18 PERCENT) | Land alteration restrictions. | *City of Rochester Code of Ordinances.* | Rochester-Olmsted Planning Department as part of the development review process. | Implemented, as required by local ordinances. |

## Table 2-1
## 2002 AUAR Summary of Mitigation Measures and Implementation Assessment

| Impacted Feature | Mitigation Measure(s) | Institutional Control | Oversight Authority | Implementation Assessment |
|---|---|---|---|---|
| **EROSION AND SEDIMENTATION and WATER QUALITY-SURFACE WATER RUNOFF -** STORMWATER | Install local and regional ponds, storm sewers, channels, and other BMPS to protect water quality and control discharge rates to pre-development conditions. | *City of Rochester Code of Ordinances. (City of Rochester Stormwater Management Plan and Comprehensive Wetland Management Plan provide technical guidance.)* | Rochester Public Works Department prior to development. | Implemented, as required by state and local regulations. |
| | Preparation and development of a Storm Water Pollution Prevention Program | NPDES Phase II MS4 permit due in March 2003. | Rochester Public Works and Marion Township. | Implemented, as required by state regulations. Additionally, the MS4 permit was revised in 2006 and new SWPPPS were prepared by each permittee and implemented accordingly. |
| **WATER QUALITY-WASTEWATERS** – WATER QUALITY | Provision of City sanitary sewer services to subdivisions with failing septic systems and new developments in the AUAR project area. | The WQPP and *City of Rochester Code of Ordinances.* | City of Rochester Public Works as part of the WQPP. | Implemented as planned and as required by local ordinances. |
| **GEOLOGIC HAZARDS AND SOIL CONDITIONS -** SINKHOLES | Avoid or minimize impact with proper engineering. | *City of Rochester Code of Ordinances.* | Rochester-Olmsted Planning Department as part of the development review process. | Implemented, as required by local ordinances. |
| **GEOLOGIC HAZARDS AND SOIL CONDITIONS -** SENSITIVITY TO GROUNDWATER CONTAMINATION (Shallow depth to bedrock) | Provide City sewer and water to subdivisions with failing septic systems and new developments in the AUAR project area. | The WQPP and *City of Rochester Code of Ordinances.* | Rochester-Olmsted Planning Department. | Implemented as planned and as required by local ordinances. |
| | Abandon failing wells and septic systems. | Abandonment of private wells per *Minnesota Rules Chapter 4725.* Septic systems abandoned as per *Minnesota Rules Chapter 7080 and Olmsted County Public Health Regulation No. 41.* | Rochester-Olmsted Planning Department. | Property owners are responsible for abandoning wells as water connections are made unless they receive an MDH well maintenance permit. They are also responsible for abandoning septic systems as sewer connections are made. |
| **GEOLOGIC HAZARDS AND SOIL CONDITIONS -** DECORAH-EDGE | Evaluate Decorah-Edge conditions and application of stewardship mitigation measure. | Stewardship mitigation measures implemented by this AUAR, and substantial land alteration requirements *City or Rochester Code of Ordinances Sec. 62.110.* | Rochester-Olmsted Planning Department. | Instead of utilizing the stewardship approach, the City and the County instead adopted amendments to its wetland ordinance to protect the groundwater recharge areas located in the Decorah Edge geologic setting. These include additional soil analysis requirements. |

## Table 2-1
## 2002 AUAR Summary of Mitigation Measures and Implementation Assessment

| Impacted Feature | Mitigation Measure(s) | Institutional Control | Oversight Authority | Implementation Assessment |
|---|---|---|---|---|
| **GEOLOGIC HAZARDS AND SOIL CONDITIONS** - AGGREGATE RESOURCES | Evaluate resource availability and use. | Stewardship mitigation measures implemented by this AUAR. | Rochester-Olmsted Planning Department. | Stewardship mitigation measures not implemented as planned because the re-construction of TH 52 necessitated a wide spread evaluation of available aggregate resources to find the closest and best-suited resources. |
| **TRAFFIC** - ROADWAY LEVEL OF SERVICE, CAPACITY, SAFETY | Establish Traffic Monitoring Program and apply City of Rochester Guidance for Traffic Impact Studies to identify changing conditions warranting initiation of study and project development activities and road extensions, lane additions and signal installations. | *MnDOT Work Studies Program, Olmsted County and City of Rochester Capital Improvement Programming, City of Rochester Land Development Manual, ROCOG Long Range Transportation Planning Program.* | City of Rochester, Olmsted County, Minnesota Department of Transportation, and ROCOG. | Traffic monitoring conducted in conjunction with the ROCOG 2005 Transportation Plan Update and for its 2007 amendments. |
| **TRAFFIC** - DEFICIENT INTERSECTION OPERATION | Addition of turn lanes and/or installation of traffic signals based on studies determining that warrants for signalization are met and that a traffic signal is the proper solution for the respective traffic deficiency. | *Minnesota Manual on Uniform Traffic Control Devices (MMUTCD).* | Minnesota Department of Transportation, City of Rochester, and Olmsted County. | Intersection operations evaluated in conjunction with the ROCOG 2005 Transportation Plan Update and for its 2007 amendments. Projects added to City and County Capital Improvement Plans, where warranted. |
| **TRAFFIC** - INSUFFICIENT PEAK HOUR ROADWAY CAPACITY | Consider establishment or enhancement of transit service to reduce peak hour passenger vehicle travel and establishment of bus pull-out areas. | City of Rochester Transit Coordination Program. | Federal Transit Administration, City of Rochester, Rochester Olmsted Council of Governments, and MnDOT. | No transit improvements needed since 2002, but planning has been completed and future enhancements identified. |
| | Evaluation of roadway upgrade based on traffic monitoring results. | ROCOG Long Range Transportation Planning Program | ROCOG | Roadway upgrades evaluated in conjunction with the ROCOG 2005 Transportation Plan Update and for its 2007 amendments. Projects added to City and County Capital Improvement Plans, where warranted. |
| **TRAFFIC** - BICYCLE AND PEDESTRIAN USER SAFETY AND MOBILITY | Require trails and sidewalks to be developed with all new roadway and development projects consistent with City and County policy. | City of Rochester and Olmsted County Capital Improvement Programming for trail projects; City of Rochester Land Development Manual, and ROCOG Long Range Bicycle Plan. | City of Rochester, Olmsted County, Rochester Olmsted Council of Governments, Minnesota Department of Transportation, and ROCOG. | Bicycle and pedestrian needs evaluated in conjunction with the ROCOG 2005 Transportation Plan Update and for its 2007 amendments. Projects added to City and County Capital Improvement Plans, where warranted. The bike/pedestrian trail that will parallel the 20th St. SE connection project is under design. |

## Table 2-1
## 2002 AUAR Summary of Mitigation Measures and Implementation Assessment

| Impacted Feature | Mitigation Measure(s) | Institutional Control | Oversight Authority | Implementation Assessment |
|---|---|---|---|---|
| **NEARBY RESOURECES** - PARKS, RECREATION AREAS, OR TRAILS | Consideration of parkland acquisition as noted in the Stewardship mitigation measures identified this table. | *Land Use Plan for the Rochester Urban Service Area, City of Rochester Code of Ordinances* (Section 64.440), and the City of Rochester Park and Recreation Parkland Acquisition Plan. | City of Rochester, Olmsted County, City of Rochester Park Department. | Acquisition of parkland other than that required by the parkland dedication ordinance was considered whenever such opportunities became available. The golf course land trade discussed in Section I was an unforeseen parkland improvement opportunity. |
| | Dedicating parkland from each development proposal. | | | Implemented, as required by local regulations. |
| | Considering dedication of natural resource features. | | | Dedication of natural resource features was considered whenever such opportunities became available. |
| | Updating the *Parkland Acquisition Plan* within five years to identify future park needs in the AUAR project area, particularly significant segments of environmental corridors with consideration of cooperative purchases. | | | Park and Recreation Dept. staff determined that updates of the *Plan* was not warranted as anticipated due to the consistency and adequacy with which the parkland dedication requirements have been met with each new development. There are no plans to update the *Parkland Acquisition Plan* within the next five years. |
| | Updating *City Plan* map to delineate environmental corridors in the USAs/URAs. | | | The *City Plan* map was not been updated to include environmental corridors, as planned. Instead, environmental corridors were delineated as part of the storm water management planning process and added to the GIS database so they would be more universally available for multiple applications and assessments. |

# Table 2-1
## 2002 AUAR Summary of Mitigation Measures and Implementation Assessment

| | | | | |
|---|---|---|---|---|
| **NEARBY RESOURECES -** CULTURAL RESOURCES | City will require developer coordination with the State Historic Preservation Officer on properties with recorded high and moderate potential for cultural resources and sites with potential historical or architectural significance. | *Section 106 of the Historic Preservation Act, Minnesota Private Cemeteries Act,* City Adoption of AUAR and Mitigation Plan. | Rochester-Olmsted Planning Department. State Historic Preservation Officer. | Coordination and surveys completed for the Bear Creek sanitary sewer project and the 20th St. SE Connection project. No other projects triggered additional coordination. |
| **Impacted Feature** | **Mitigation Measure(s)** | **Institutional Control** | **Oversight Authority** | **Implementation Assessment** |
| **IMPACT ON INFRASTRUCTURE AND PUBLIC SERVICES** | Infrastructure improvements as identified in this AUAR. | *City of Rochester Code of Ordinances, Thoroughfare Plan* by Rochester Olmsted Council of Governments, and Minnesota Department of Transportation planning. | City of Rochester, Rochester Olmsted Council of Governments Olmsted County, and Minnesota Department of Transportation. | Proceeding, as planned. |
| **CUMULATIVE IMPACTS -** DEVELOPMENT PATTERN (Development pattern and character of the area will become more urban and may affect the quality of life currently valued by many of the current residents. Vacant and/or open areas will become developed.)<br><br>**CUMULATIVE IMPACTS -** HABITAT CORRIDOR (The fairly contiguous habitat corridor along Bear Creek and Badger Run may become more fragmented as development occurs. | Implementation of the measures identified in this table. | City Adoption of AUAR and Mitigation Plan. | Responsible parties as identified in this table. | Implemented, as planned; however, the growth rate in this area was not as rapid as anticipated.<br><br>New development since 2002 has been in areas other than these stream corridors. |
| **STEWARDSHIP ITEMS -** NATURAL AND CULTURAL RESOURCES | Educated the community at large on benefits of environmental stewardship and share AUAR resource data with landowners of undeveloped land. | City Adoption of AUAR and Mitigation Plan. | Rochester-Olmsted Planning Department. | Completed on a development by development basis through the development review process. |

## Table 2-1
## 2002 AUAR Summary of Mitigation Measures and Implementation Assessment

| | | | | |
|---|---|---|---|---|
| | Completion of an Environmental Resource Checklist by developers to confirm understanding of AUAR data, identify applicable mitigation measures, document consistency with hypothetical development scenario, and raise awareness of stewardship opportunities. | City Adoption of AUAR and Mitigation Plan. | Rochester-Olmsted Planning Department. | Completed and in use. |
| | Data transfer to provide stewardship information and AUAR resource data to entities involved in the development process. | City Adoption of AUAR and Mitigation Plan. | Rochester-Olmsted Planning Department. | Completed and in use. |
| | Update *Parkland Acquisition Plan* to identify areas appropriate for land acquisition. | City Adoption of AUAR and Mitigation Plan and the City of Rochester *Parkland Acquisition Plan.* | Rochester Park Department | Not completed; see above. |
| | Update the *Rochester USA Land Use Plan Map* to delineate cultural resource sites and environmental corridors. | City Adoption of AUAR and Mitigation Plan. | Rochester-Olmsted Planning Department. | Completed via an alternative method (use of GIS databases). |